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Seminar Overview

第3回日伯文化環境研究会

「都市・地域・自然システムの寿命」

共 催：京都大学研究連携基盤学知創成ユニット・日ASEAN研究プラットフォームグローバル情報ネットワーク・京都大学研究連携基盤グローバル生存基盤展開ユニット・京都大学総合生存学館

日 時：2018年3月13日（火）～15日（木）

会 場：京都大学稲盛財団記念館3階333号室（京都市左京区吉田下阿達町 46）

（注意：3月13日の基調講演のみ日本語・英語の逐次通訳あり。それ以外の発表と討論は英語で行う）

講演者：泉拓良（京都大学総合生存学館）、近藤哲生（国連開発計画UNDP駐日代表事務所）

発表者：ネリ・デ・メロ・テヒ（サンパウロ大学芸術科学人文科学研究科）、ヒカルド・フラガ（バイーア連邦大学地球科学研究所）、アンヌ ハップ（西パラー連邦大学社会の科学研究所）、クライデ・モラエス（西パラー連邦大学・社会の科学研究所）、エルヴェ・テヒ（サンパウロ大学・芸術科学人文科学研究科／フランス国立科学研究センター・米州研究研究所）、エリゼウ・スポジト（サンパウロ州立大学理工学地球科学研究所）、萩原八郎（四国大学経営情報学部）、山敷庸亮（京都大学大学院総合生存学館）、ホベルタ・フォンタン（京都大学東南アジア地域研究研究所）、フウマン・ファルザネ（京都大学エネルギー理工学研究所）＊

挨拶とコメント：河野泰之（京都大学東南アジア地域研究研究所）水野広祐（京都大学東南アジア地域研究研究所）、アンドレア・フロレス・ウルシマ（京都大学東南アジア地域研究研究所）、柳沢雅之（京都大学東南アジア地域研究研究所）、幸島司郎（京都大学野生動物研究センター）、ウイル・デ・ヨン（京都大学東南アジア地域研究研究所）、ローハン・デスーザ（京都大学アジア・アフリカ地域研究研究科）、岡部明子（東京大学大学院新領域創成科学研究科）、松本裕（大阪産業大学建築環境デザイン学科）、原正一郎（京都大学東南アジア地域研究研究所）＊　　[*登壇順]

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3rd Brazil-Japan Seminar on Cultural Environments

LIFETIME OF URBAN, REGIONAL AND NATURAL SYSTEMS

Co-organization: Unit of Academic Knowledge Integration Studies of Kyoto University Research Coordination Alliance (UAKIS-KURCA); Glocal Information Platform of Japan-ASEAN Platform for Transdisciplinary Studies; Research Unit for Development of Global Sustainability (RUDGS-KURCA); Kyoto University Graduate School of Advanced Integrated Studies in Human Survivability (KU-GSAIS)

Date: 13-15 March 2018

Place: Kyoto University, Inamori Foundation Memorial Building, 3rd floor, Large Meeting Room

Access: <https://en.kyoto.cseas.kyoto-u.ac.jp/>. Nearest train station: Jingu-Marutamachi St.

Program

DAY ONE: 13 March (Tue.)

9:40~10:00 OPENING FIRST DAY

Greetings (KŌNO Yasuyuki, KU-CSEAS)

Greetings (MIZUNO Kōsuke, KU-CSEAS/ RUDGS)

Theme's Rationale: *The Systemic View in the Debate about Human-Nature Interactions* (Andrea URUSHI-MA, KU-CSEAS)

10:00~ 12:20 SESSION 1

Chairman: YANAGISAWA Masayuki (KU-CSEAS)

Presentation 1: *Brazilian Atlantic Forest -- Occupation, Death and Protection of Forest Remnants and Biodiversity*. Neli DE MELLO-THÉRY (USP-EACH/IEA)

Presentation 2: *Earth's System Under Transformation -- Humans and Geodiversity in an Anthropocene Perspective*. Ricardo FRAGA PEREIRA (UFBA-IGEO)

Presentation 3: *Lifetime of Human Occupations in Amazonia: Rethinking Human Presence and Landscape Transformation*. Anne RAPP/ Claide MORAES (UFOPA-ICS)

Comments: Wil DE JONG (KU-CSEAS)/ KOHSHIMA Shiro (KU-WRC)

12:20~ Lunch

14:00 ~ 15:30 KEYNOTE LECTURE

Chairman: YAMASHIKI Yōsuke (KU-GSAIS)

Ancient culture and natural disaster - examples in East Asia (Provisional Title)

IZUMI Takura (KU- GSAIS)

(Obs.: *Japanese-English Consecutive Translation will be available*)

15:30~ Coffee Break

15:45~18:00 SESSION 2

Chairman: Andrea URUSHIMA (KU-CSEAS)

Presentation 4: *Life Cycle of Brazilian Cities*. Herve THÉRY (USP-EACH/ CNRS-CREDA)

Presentation 5: *Center, Centrality and Consumption in Middle-Sized Cities' Systems*. Eliseu SPOSITO (UNESP-IGCE)

Presentation 6: *Traditional Farming Systems on the Steep Slopes in Mountainous Areas of Tokushima*. HAGIWARA Hachirō (Shikoku U-FMIS)

Comments: OKABE Akiko (UTokyo-GSFS)/ MATSUMOTO Yutaka (OSU-FDT)

18:00~ 18:30 First Day Closing

Moderator: Rohan D'SOUZA (KU-ASAFAS)

19:00~ Dinner

DAY TWO: 14 March (Wed.)

9:40~9:45 OPENING SECOND DAY

Greetings (HARA Shōichirō, KU-CSEAS/ UAKIS-KURCA)

9:45~11:45 SESSION 3

Chairman: Andrea URUSHIMA (KU-CSEAS)

Presentation 8: *Intercomparison survey among cities for the sustainable use of surface water and its impact of untreated wastewater in the river / lake basin system.* YAMASHIKI Yōsuke (KU-GSAIS)

Presentation 9: *Multiple Benefits Assessment of the Clean Energy Development in Asian Cities.* Hooman FARZANEH (KU-IAE)

Presentation 10: *Brazilian Metropolitan Natural Areas: Dissonances and Interactions between Rural and Urban on Macro Metropolitan Context.* Roberta FONTAN (KU-CSEAS)

Comment: Neli DE MELLO-THÉRY (USP-EACH); Herve THÉRY (USP-EACH/ CNRS-CREDA)

11:45~12:30 SPECIAL TALK:

Chairman: YAMASHIKI Yōsuke (KU-GSAIS)

SDGs and Its Goal 11: Sustainable Cities and Communities (Provisional Title)

KONDŌ Tetsuo (UNDP Tokyo)

12:30~ Lunch

14:00~18:30 Field Trip Survey

DAY THREE: 15 March (Thu.)

10:30~12:30 FINAL CLOSING DISCUSSION:

Moderator: Andrea Flores Urushima

LIST OF PARTICIPANTS*

(*The list follows the order of appearance in the program)

KEYNOTE LECTURE:

Izumi Takura (KU-GSAIS)

PARTICIPANTS IN SESSIONS:

Neli de Mello-Théry (USP-EACH/IEA)

Ricardo Fraga Pereira (UFBA-IGEO)

Claide Moraes / Anne Rapp (UFOPA-ICS)

Hervé Théry (USP-EACH/ CNRS-CREDA)

Eliseu Spósito (UNESP-IGCE)

Hagiwara Hachirō (Shikoku U-FMIS)

Yamashiki Yōsuke (KU-GSAIS)

Roberta Fontan (KU-CSEAS)

Hooman Farzaneh (KU-IAE)

SPECIAL TALK:

Kondō Tetsuo (UNDP-Tokyo)

DISCUSSANTS:

Kōno Yasuyuki (KU-CSEAS)

Mizuno Kōsuke (KU-CSEAS)

Andrea Urushima (KU-CSEAS)

Yanagisawa Masayuki (KU-CSEAS)

Wil de Jong (KU-CSEAS)

Kohshima Shiro (KU-WRC)

Rohan d'Souza (KU-ASAFAS)

Okabe Akiko (UTokyo-GSFS)

Matsumoto Yutaka (OSU-FDT)

Hara Shōichirō (KU-CSEAS)

LIST OF PARTICIPATING INSTITUTIONS*

KU-CSEAS (Kyoto University, Center for South-east Asia and Area Studies)

KU-RUDGS (Kyoto University, Research Unit for Development of Global Sustainability)

USP-EACH (University of Sao Paulo, School of Arts Sciences and Humanities)

USP-IEA (University of Sao Paulo, Institute of Advanced Studies)

UFBA-IGEO (Federal University of Bahia, Institute of Geosciences)

UFOPA-ICS (Federal University of Western Para, Institute of Sciences of the Society)

KU-WRC (Kyoto University, Wildlife Research Center)

KU-GSAIS (Kyoto University, Faculty for Graduate School of Advanced Integrated Studies in Human Survivability)

CNRS-CREDA (French National Centre for Scientific Research, Centre for Research and Documentation on the Americas)

UNESP-IGCE (Sao Paulo State University, Institute of Geosciences and Exact Sciences)

Shikoku U-FMIS (Shikoku University, Faculty of Management and Information Science)

UTokyo-GSFS (University of Tokyo, Graduate School of Frontier Sciences)

OSU-FDT (Osaka Sangyō University, Faculty of Design Technology)

KU-ASAFAS (Kyoto University, Graduate School of Asian and African Area Studies)

KU-IAE (Kyoto University, Institute of Advanced Energy)

UNDP-Tokyo (UNDP Representative Office in Japan, Tokyo)

Short Profile of Lecturers

Keynote Lecturer

Izumi Takura Born in Kanagawa, completed his studies in the faculty and graduate school of Literature in Kyoto University. He is a Japanese archaeologist and writer. He is a Professor of Archaeology at Kyoto University and Professor Emeritus of Nara University. He specializes in the archeology of prehistoric times and has authored books on the appearance of Jōmon Pottery and its history, in addition to the early history and birth of Japan. He is a member of the Japanese Archaeological Association, Japan Society of Scientific Studies on Cultural Properties, West Asian Archaeology Society, Japanese Society for West Asian Archeology, Japan Orient Society and The Society For Near Eastern Studies on Japan

Invited Lecturers

Neli Aparecida de Mello-Théry Full-professor at University of São Paulo, School of Arts, Sciences and Humanities. Doctor in Geography by Paris-Ouest Nanterre University and São Paulo University, specialized in public policies, especially in environmental planning and management. Developed a research on sustainability of agricultural production and adaptation policies to climate change in Mato Grosso and Brittany during a post-doctoral period (2012-2013) at the Université de Rennes 2. Participates in research networks and laboratories in Brazil and France. In addition of being an associate researcher at the University of Brasília, she has been a visiting professor at the University of Paris X, Nanterre (2000), Université de Rennes 2 (2005 and 2008) and Université Paris Sorbonne-Nouvelle (2008). Author of *Territory and Environmental Management in the Amazon: Public lands and the dilemmas of the State* (2011), *Territorial Policies in the Amazon* (2006) and co-author of *Atlas do Brasil - Disparities and Dynamics of the Territory* (2005, 2008 and 2018) (In Portuguese, Annablume, 2011, 2006 and Edusp, 2005, 2008 and 2018).

Ricardo Galeno Fraga de Araújo Pereira Geology bachelor (1995) and a Master of Sciences (1998) received from the University of São Paulo (Brazil). Between 1997 and 2007, worked with environmental consultancy, dealing mainly with environmental impact assessments and management plans of protected areas in karst systems. Also conducted environmental assessment varied types of facilities, environmental audit, monitoring campaigns of soil and groundwater, and operation of remediation systems in several States in Brazil. In 2007 started a PhD program in the Earth Science Department at the University of Minho (Portugal), defending the thesis: “Geoconservation and Sustainable Development in Chapada Diamantina (Bahia - Brazil)”, with a scholarship from the High Level Scholarship program for Latin America (Programa Alβan). His PhD thesis was awarded with the 2011 Scientific Award of the Casa de América Latina / Santander Totta, in the category of Technologies and Natural Sciences. After the conclusion of the PhD, in 2011 he started to work at the Federal University of Bahia – UFBA, where he is an Associate Professor in the Geosciences Institute and teaches undergraduate courses of Environmental Geology and Geological Mapping, and graduate courses of Karst Relief and Speleology, Geoconservation and Geoheritage, with participation in master and doctoral examinations at several Brazilian universities, in the areas of hydrogeology and water resources management, karstic reliefs and geoconservation. Since 2017, he is the Director of Scientific Programming of the Brazilian Geological Society (for Bahia and Sergipe States) and the General Secretary of the Brazilian Association for Groundwater (for Bahia and Sergipe States). Author of two books about geoconservation, and articles about environmental geology, karst, hydrogeology and management of natural resources.

Anne Rapp Py-Daniel Associate professor, since 2011, at the Archaeology Undergraduate Course of the Federal University of Western Pará State, Brazil. She earned her degree of doctor (2015) and master (2009) in Archaeology from the University of São Paulo, and a Bachelor’s degree (2000-2004) in Prehistory from

the Panthéon-Sorbonne University in Paris, France. Her academic and professional work deals with Amazonian Archaeology, specifically Funerary Contexts. She has researched about the formation processes of archaeological sites in different Amazonian regions and periods in collaboration with varied institutions, which resulted in the production of 13 papers and books published in the past five years. She has advised undergraduate students since 2010, and is nowadays responsible for conducting archaeological research in maroon communities near Santarém city, State of Pará, Brazil. She has participated in interdisciplinary groups studying ancient Amazonian archaeological sites in the States of Pará and Amazonas; and is responsible for formulating books about archaeology for elementary and high school students.

Claide de Moraes Archaeologist and associate professor at the Federal University of Western Pará, Santarém, Brazil. He earned the degrees of doctor (2013) and master (2007) in Archaeology from the University of São Paulo, and a Bachelor's degree (2003) in History from the Catholic University of Goiás, Brazil. During the master and doctoral research, he has investigated the emergence, maintenance and fall of the societies in Central Amazonia around the year 1000 A.D., focusing on studies about the formation processes of archaeological records, ceramic industries, conflict and territorial expansion. He is currently developing studies of lithic industries from different moments of occupation in the Amazon. He is a member of a Franco-Brazilian research group investigating the first human occupations in South America, and has worked with contemporary indigenous populations in order to build a long term indigenous history perspective. He is author of 12 papers and books chapters about Amazonian archeology and a member of the Ethics Committee of the Brazilian Archaeological Society.

Hervé Théry Specially Appointed Professor at Universidade de São Paulo-USP since 2005, and Emeritus Senior Researcher at CREDA - Documentation and Research Centre on the Americas, CNRS-University Sorbonne Nouvelle Paris III, where he was researcher from 1979 to 2016. After receiving Bachelor degrees both in History (1972) and Geography (1973) and a Master degree in Geography (1973) he completed the doctoral program in Geography (1976) at the University Paris I Panthéon-Sorbonne, and he specialized on the pioneer fronts of the Brazilian Amazon basin and the dynamics of Brazil's territory. He has been Professor at the École Normale Supérieure, in charge of the Geography Department (1998-2002), environmental expert from the scientific and technical board of the French Ministry for Foreign Affairs (1994-1996), member (1993-2002) and chair (2000-2002) of the International Advisory Group (indicated by the G7 countries and the World Bank) of the pilot program for the conservation of Brazil's tropical forests. His main publications are: *Le Brésil*, Armand Colin, Paris, 6th édition 2012; *Le Brésil, pays émergé*, Armand Colin, Paris, 2016, and *Atlas do Brasil, Disparidades e dinâmicas do território* (with Neli Aparecida de Mello-Théry), Edições da Universidade de São Paulo EDUSP, São Paulo, 2005, with a third edition due to be published in February 2018. He is the Chief Editor (with Neli Aparecida de Mello-Théry) of the French-Brazilian geography journal *Confins* (<http://journals.openedition.org/confins/>).

Eliseu Savério Sposito Full Professor at São Paulo State University (UNESP). Doctor and Master in Human Geography by São Paulo University (USP). Specialized in studies about middle-sized cities, industrialization of São Paulo and geographal thought. Responsible for the Geography area at FAPESP (Foundation to Support São Paulo State Research). Post-doctor from the Paris University, Sorbonne-Panthéon. Author of books (8 monographs and 13 edited books), articles (46) and book chapters (48): including, *Geografia e Filosofia* (Geography and Philosophy), 2004; *Redes e cidades* (Urban networks and cities), 2009; *O novo mapa da indústria no estado de São Paulo* (The new map of industry in São Paulo State), 2016; *Diccionario de Geografia y Planeamiento* (Dictionary of Geography and Planning), 2016; *Reestruturação produtiva e urbana no Estado de São Paulo* (Urban and productive restructuring in São Paulo State), 2007; *The role of large commercial companies in the dynamics of traditional commercial spaces: Presidente Prudente (Brazil) and Lleida (Spain)*. Visitor professor at the universities of Cá Foscari (Venice), Salamanca (Spain), San Juan (Argentina) and some others in Brazil. Directed 37 Masters and 26 PhD theses in Geography.

Hagiwara Hachiro Full-professor at Shikoku University, Faculty of Management and Information Science. Born in Tokyo, he earned a Bachelor degree from Waseda University, in the Faculty of Pedagogy, with a major in geography and history. He also earned the Master degree and completed his doctoral course at Rissho University, in Geography. During the post-graduate research, he investigated water supply and drainage systems of Mexico City and Sao Paulo, as well as, Tokyo and Paris. His specialty is urban geography and regional studies of Latin America, and in Tokushima he organizes visits to rural areas with students in cooperation with the local government.

Yamashiki Alexandre Yosuke Professor at the Graduate School of Advanced Integrated Studies in Human Survivability (GSAIS), Kyoto University. Born in Otsu, Yosuke Alexandre Yamashiki attended Kyoto University where he earned his B. Eng. in Civil Engineering in 1990. From Kyoto he went to the University of Sao Paulo, Brazil (Escola Politecnica da Universidade de Sao Paulo <http://www.poli.usp.br>), earning his Master of Engineering in 1994, then studying Global Environment Engineering in Kyoto in the Graduate School of Engineering where he earned a Doctorate of Engineering in 1999. During his doctoral course, he worked in the international NGO (ILEC) as researcher. After this, he worked at UNEP-DTIE-IETC as an Associate Programme Officer for two years, contributing to the establishment of La Plata River Basin Environmental Management Network (RIGA) and the 3rd La Plata River Basin Workshop held in the City of Posadas, Argentina in 2001.

Hooman Farzaneh Jr. Associate Professor at the Institute of Advanced Energy (IAE), Kyoto University, Japan. He has a BSc in Chemical Engineering and MSc and PhD in Energy Systems Engineering from Azad University, Tehran, Iran. Dr. Hooman worked at the United Nations University Institute for the Advanced Study of Sustainability, Tokyo, as a Postdoctoral research fellow, before joining the Kyoto University. He also collaborated with the graduate school of energy science, Kyoto University as a research fellow and a member of the GCOE scenario planning group. Dr. Hooman is particularly interested in issues related to quantitative and qualitative analysis focusing on developing research patterns of low carbon energy scenarios and policy implementations designed to tackle air pollution problems in both regional and local scales. Particular interests are in energy systems integration studies, energy systems modeling (Demand and Supply), Low Carbon Society, energy management in industrial and transportation sectors and energy recovery systems design. Dr. Farzaneh serves as an editorial board member for J-Sustain and as a regular reviewer for several international journals in the field of energy engineering. He is currently conducting a comprehensive research on clean energy development for urban sustainability and serving as the Principle Investigator of a funded project entitled “Assessing the multiple benefits of clean energy policies in Asian mega-cities” at the Institute of Advanced Energy, Kyoto University.

Roberta Fontan Architect and urbanist, with PhD in Environmental Science and master's in Architecture and Urbanism, both at University of São Paulo (USP, financed with a scholarship from Ministry of Education CAPES Program). She has experience as a geoprocessing specialist at University of Campinas-UNICAMP, with a bachelor in architecture and urbanism from the Federal University of Pernambuco and a bachelor in Computer Science at the Catholic University of Pernambuco. She used to be, since 2009, a research assistant at the Metropolis Laboratory at the Faculty of Architecture and Urbanism at University of São Paulo (Lume/FAU/USP), and investigated about rural areas of Sao Paulo metropolitan and macro-metropolitan context. She is currently a short-term visiting assistant professor in the Center for Southeast Asian Studies at Kyoto University. Her actual research is concerned with the urban expansion and rural area transformation in Kyoto and Osaka metropolitan areas since the 1950s.

ABSTRACTS OF PRESENTATIONS

(13March) SESSION 1

Brazilian Atlantic Forest: occupation, death and protection of forest remnants and biodiversity

Neli Aparecida de Mello-Théry (USP)

Metropolitan dynamics totally remodel natural systems. Is it an inevitable process of destruction of the latter, or are there possibilities of socio-cultural and political co-existence? The Atlantic forest biome, formed by diverse forest ecosystems, is a long coastal area extending from south to northeast of Brazil, presenting a variable depth, reduced to a narrow coastal strip in the North and Northeast from the state? of Amapá (AP) to the city? of Salvador (BA), but entirely covering the States of Espírito Santo and Rio de Janeiro, and wide stretches of the southernmost states. It is the most anthropized biome in the country.

These coastal regions were the first occupied by the Portuguese colonization and are the areas where much of the economic cycles of the Brazilian history were developed and where, for that reason, the destruction of the nature has been more profound. Geographical factors such as the location and availability of natural resources, such as abundant wood, were favorable to the installation of the political and economic power centres, and these coastal areas became the site of construction of two of the former Brazilian capitals, the cities of Salvador and Rio de Janeiro.

In the first half of the twentieth century this untouched ecosystem still covered the center-west of São Paulo State? and the north of Paraná State?. But historical, socio, cultural, and political factors contributed to its decay: the colonization and occupation of the coast and the progression of a pioneer front base on the development of agriculture, especially coffee plantations, caused the destruction of this dense vegetation. The logging activity, in particular, led to the conversion of the forest into an agricultural domain, where maize and wheat were first produced, and then soybeans. The use of

timber? for construction, transported on railroads which later, served as a base for the industry of São Paulo, led to the near disappearance of this biome. It was also during this century that the installation of industry, concentrated in the areas near the city of Cubatão in São Paulo State, and the emission of polluting chemical substances in the air, constituted important factors for the destruction of the forest itself.

Currently, there are only remnants of this biome usually on riverbanks or in hard-to-reach areas, and it covers less than 7% of its initial extension. Since the late 1970s, the notion of environmental protection gained global relevance and began to guide public policies around the world. This notion has also made promising advances in the national context because it has gained voice through the pressure from nongovernmental organizations such as SOS Mata Atlântica, ISA, WWF, Greenpeace. As a result, these remnants were declared a Biosphere Reserve by the United Nations Educational, Scientific and Cultural Organization (Unesco). Its conservation can nowadays rely on specific environmental legislation and biodiversity conservation policies that contribute to the fulfillment of the country's international commitment towards multilateral institutions.

However, this coastal area simultaneously shelters, between the cities of São Paulo and Rio de Janeiro, a region of intense urban-metropolitan dynamism which provokes conflicts of use of the territory. Are these reserves, and the group of protected areas of this biome, able to resist to the situation or would these fail to do so, which would lead to the final demise of these natural systems? Or would public actions articulated with those of society, allow the beginning of a new cycle?

Earth's system under transformation: Humans and geodiversity in an Anthropocene perspective

Ricardo Fraga Pereira (UFBA)

Earth Sciences' investigations allow us to know that the planet Earth has an age of 4,6 billion years. During this elapsed time many processes changed radically some aspects of the planet. In the first four billions of Earth's history, life was in its initial stages and was restricted to the ocean bodies. In the other remaining 500 millions of years, living organisms became more diversified, occupied the continental lands and the human society started to participate in the Earth System at about 12.000 years ago, although our species were already present at the planet for at about 200 million years. This means that human's presence in the planet is just a small fraction of the Earth's history. But, on the other hand, human's modern lifestyle caused critical changes in this system, what led some scientific currents to say that we are responsible for the global warming. Beside this, the International Commission on Stratigraphy - ICS, which is the scientific body that sets the global standard for the time scale that expresses the history of the Earth, has a working group that is nowadays discussing the establishment of a new geological epoch known as Anthropocene. This new geological epoch is marked by substantial changes, in part irreversible, to the Earth System that are comparable to or greater in magnitude to other natural phenomena or processes that occurred previously in the planet, such as glaciers and volcanic activity. Will be discussed here the interactions between human societies and the geodiversity elements, which includes minerals, rocks, soils and reliefs, throughout the human history, focusing on the needs of resources to sustain the modern urban life and the myriad of limits, values and services of natural systems and their abiotic elements. Some examples will be presented, including the reality and conflicts of the geodiversity use in Chapada Diamantina, an ancient diamond mining region in the Northeast of Brazil.

Lifetime of human occupations in Amazonia: rethinking human presence and landscape transformation

Anne Rapp/ Claide de Moraes (UFOPA)

Following the approach of Historical Ecologists this presentation will use data from different collaborative projects in order to demonstrate that today's Amazon forest, considered by many as one of the few pristine and unchanged wild environments of the planet, is in fact the result of a long term human management of positive impacts. This assumption is extremely important to rethink the role of traditional populations for the preservation of the Amazon.

Scientific standard view presents Amazonia as a place where local societies were unable to reach a fully developed stage as a result of a supposed shortage of resources and an oppressive environment. In this perspective, humans would not have been able to domesticate animals and plants of significant importance to their daily diet. Therefore, forest groups would have lived in continuous dependency and limited by the availability of wild game and plant resources in nature.

With the better understanding and accumulation of data provided by Amazonian archaeological sites and remains, nowadays it is possible to offer an alternative viewpoint to understand the long relationship thread between humans and their environment. Different from the first assumptions presented in archaeological studies from the 1950's to the 1990's, we suggest that Amazonian people developed mechanisms of manipulation and interaction with the environment that allowed animals and plants to be managed or semi-domesticated in different ways and that these choices acquired, throughout time, more importance in the manner they obtained food from the forest.

Dealing with some undomesticated plants has freed humans from laborious agricultural work and from the need to choose more fertile soils as the only settlement possibility for home and production sites. We understand that this process was not an imposition from the environment, but rather, it was a cultural choice. The evidence that several plants were fully domesticated in archaeological sites shows that ancient societies knew how to cultivate, but

nonetheless, gave a secondary importance to these plants, choosing a more flexible approach.

This presentation will focus on four main moments of the human occupation history in Amazon: first, the arrival of the earliest comers, around 12 thousand years ago and how they interacted with a “pristine environment”, we will mention evidence that these new comers initiated a process of environment manipulation following distinct strategies; second, a few millennia later, this process culminated in large occupations and populous societies in distant parts of the Amazon around the year 1000 A.D., which created a large network of exchanges (social, economic, political, material, etc.); third, we will mention how these large societies entered a moment of intense disputes in some parts of the Amazon, and subsequently experienced a population decline. When these populations apparently started to regain stability, the European contact drastically changed Amazonian societies forever with the arrival of new foreign populations. At the same time, many bias and harmful concepts emerged. Finally, we will focus on nowadays occupants, who still have a traditional life style and that were influenced by ancient indigenous societies. By dealing with these four moments of occupation, we will revisit a few key concepts like: environment, human-nature interaction, urbanism, human ecology, sustainability, negative and positive human impacts.

(13March) SESSION 2

Life Cycle of Brazilian Cities

Hervé Théry (USP/CNRS)

One of the remarkable features of Brazil is that it is possible to observe there the complete cycle of birth, growth, decline - and sometimes disappearance - of cities in short time spans, often less than a century. This is particularly the case of cities that were created on the pioneer fronts, such as the coffee front, during the first half of the 20th century in the States of São Paulo and Paraná, or on the soybean front since the 1970s in Mato Grosso. Earlier cases from the colonial and imperial period allow to follow the cycle up until their final decline, such as the gold towns of Minas Gerais, which reached their economic and demographic peak in the 18th century, suffered a sharp decline in the 19th century and sometimes have witnessed a recent renaissance due to the increase of touristic activities. In addition, the country has, in several occasions, created ex-nihilo new cities to become capitals of federal states or, in two occasions, to become the capital city of the entire country, on dates that span between the end of the 19th century and the end of the 20th century.

We will therefore analyze these three cases, focusing at first on the examples of the city of Londrina (Paraná), founded in 1929, then in a second moment on that of Sinop (Mato Grosso), founded in 1974, and finally in a third moment on those of Ouro Preto (Minas Gerais), founded in 1711, and Paraty (Rio de Janeiro), founded in 1597. Among the creation of federal states capitals, we chose the examples of Belo Horizonte (1897) and Palmas (1989) and at the national level the case of Brasília (Federal District), founded in 1960, which reached in 2017 the three million inhabitants mark.

In each case, we will analyze the reasons for the founding of the city, generally related to an economic cycle of production, for export, of ores or agricultural commodities. Then the modalities of its growth and its positioning in the pre-existing urban and transport networks, already existing or created for a specific occasion (e.g. “royal route” for the gold export, coffee railways, trans-Amazo-

nian roads). Special attention will be paid to cities that for a certain period played the role of *boca do sertão*, gateways to frontier zones, which lasted only until competitors supplanted them when the pioneer front advanced a step further.

Then we will focus on the ulterior destiny of those cities after the end of the peak of the economic cycle that gave birth to them: either growth stabilized on different bases, or a more or less pronounced decline, followed or not by a recovery in another situation. In the case of voluntarily created capitals, it will be examined whether this initiative has had the expected success in giving the new city a real command role and rebalancing the territory in their area of influence.

The extraordinary dynamism of the Brazilian urban network thus offers many examples, observable until today, of the lifetime of urban systems, much more than in the countries of Europe or Asia, where the origins of the cities are so remote and their history so long and complex that it is difficult to reconstruct their life trajectory.

Center, Centrality and Consumption in Middle-Sized Cities' Systems

Eliseu Savério Sposito (UNESP)

The text is structured in three parts. In the first, we present a discussion about the concept of center (downtown) and its role for the retail trade. The center is understood as a place of confluence (as a dialectical and hierarchical pair in relation to the periphery) resulting from the search by the economic agents for the best locations for commercial establishments, making use of the land in the city. Next, we discuss the formation of subcenters defining new centralities in medium-sized cities to show how the city restructures in response to changes at different scales, from the broader process of globalization to the localization of commercial activities, in a geographic articulation of scales. The redefinition in the location of commercial activities in areas other than the city center allows the formation of new centers and, consequently, the projection of their roles as new centralities. Finally, the displacement of people in their consumption actions shows how mobility presents itself in urban space. Urban mobility is here explained from the choices and preferences of consumers in their search for the place of purchases articulating what we call centrality to their individual economic profile. We present, in the end, some partial conclusions of a collective research carried out in several medium-sized cities in the State of São Paulo. We have chosen, as case studies, the cities of Presidente Prudente, Ribeirão Preto and Marília, each one with their specific characteristics that condition and are the product of the new relations of people in their choices of consumption. As it deals with a collective work, some descriptions and conclusions are analyzed and explained in function of the spatial, temporal and thematic clipping presented. Although the definition of average city is taken from the position of the city in the urban network, in this study we will privilege the city in its specific restructuring, that is, in the reconfiguration of its urban design.

As partial result, we will demonstrate the following:

- 1) consumption is conditioned by the social class to which the individual belongs;
- 2) urban mobility (independent of means of transport) shapes the new centralities and modifies the role of the main center of the city;
- 3) the city restructures because of the locations that differ according to people's purchas-

ing power.

From the methodological viewpoint, the information was obtained indirectly and directly through field observation, questionnaires and interviews with different groups of people. As a way of visualizing the relationship between the dimensions of the city center and the location of retail activities, the conformation of new centralities and how consumers are distributed according to their specific characteristics, we use cartographic representation.

Traditional Farming Systems on Steep Slopes of Mountainous Areas of Tokushima Prefecture

Hagiwara Hachiro (Shikoku Univ.)

Keywords: unfavorable local natural environment conditions, *genkai-shūroku* (marginal villages or villages at risk of extinction), continuous maintenance of traditional landscape, *tanada* (terraced paddy fields), *ishigaki* (stone wall), and *kyōdō* (to work together with outside people).

Tokushima Prefecture is located on the eastern side of Shikoku Island, and 80% of its area is mountainous with 75% of the soil surface covered with trees. In the 1950's period, the local population in such rural mountainous areas reached its peak. In Tokushima and across Japan, people needed to develop agricultural fields even on the steep slopes, and tried to grow rice by making terraced paddy fields, by piling stones vertically. Since the Rapid Economic Growth period, which began in the middle of 1950's, people started to leave their home villages and move to urban areas for work. When they left their agricultural fields, they planted cedar trees, because cedar wood was sold at a high price at that time. Decades later, however, the cedar lumber price dropped due to the increase in the importation of cheaper woods. Abandoned cedar trees continued to grow covering the former agricultural fields.

Today, many villages in mountainous areas of Tokushima are at risk of extinction due to the falling population and aging (*genkai shūroku*). Many agricultural fields are left abandoned. In the context of re-vitalization of the diminishing rural communities, traditional landscape is being reappraised as a local treasure. Consequently, the UN Food and Agriculture Organization (FAO) founded the World Agricultural Heritage Systems in 2002, and 45 regions in 19 countries were registered by the end of 2017, of which 9 regions are located in Japan. The traditional farming systems on the steep slopes in mountainous areas of Tokushima are among the candidates for registration. The top 100 Terraced Paddy Fields in Japan were selected by the Ministry of Agriculture, Forestry and Fisheries in 1999, and two of them are located in Tokushima Prefecture.

Stone walls (*ishigaki*), built to make flat land on a

steep slope, are constructions that use a traditional type of architectural technique, and recently it has been reappraised from an ecological viewpoint in comparison with contemporary concrete constructions. Generally, the earths and soil slide down the steep slopes due to gravity, so it is necessary to bring these back upward from time to time. On the steep slopes people try to keep earth and soil in its present position by mixing thatch with earth and soil. If local people abandon their agricultural activities and discontinue the maintenance works, this kind of traditional landscape on the steep slopes will deteriorate soon. The speaker will discuss about steep slope agricultural systems, terraced paddy fields (*tanada*), and a village rich in stone walls in Tokushima.

Multiple benefits assessment of the clean energy development in Asian Cities

Hooman Farzaneh (KU)

Cities throughout Asia have experienced an unprecedented economic development over the past decades. In many cases, this has contributed to their rapid and uncontrolled growth, and has resulted in multiple problems, which include a rapid population increase, enhanced environmental pollution, collapsing traffic systems, dysfunctional waste management, as well as a rapid increase in the consumption of energy, water, and other resources. Given their growing scale and significance, Asian cities will have to be active in the global fight against climate change if it is to be effective. Municipal authorities in Asian cities therefore have a significant scope to pursue urban low emission strategies and clean energy initiatives in ways that will also foster economic development.

Moreover, clean energy initiatives at the city scale could generate knowledge and innovations that can have wider economic and social benefits, in addition to inspiring climate action in other cities and at a national scale. Without more coordination between international, national, regional and local institutions, integration into different sectoral priorities and policies, and engagement between the public, private and civic sectors it seems likely that the cities in Asia will lock in more fully to high-cost, high carbon development paths. Because of the global significance of Asian cities, policies and programs, facilitating large-scale adoption and deployment of clean and renewable energy will need to play a central role in this area.

There are significant benefits from climate change mitigation strategies, including improvement in local air quality, economic savings, public health and safety in Asian cities. The Sustainable Development Goals (SDG) can be achieved through considering the additional, which would enable local governments to obtain comprehensive insights into the potential co-benefits of their future climate mitigation strategies.

This research will demonstrate a new strategic planning mechanism for achieving multiple energy, environmental, public health and economic benefits of clean energy development strategies in Asian cities, together with a robust analytical framework that can be used to assess those benefits during the development and implementation process. The research will address in detail the role of executive clean energy policy targets to support the control of Greenhouse Gas (GHG) emission and air pollution in selected Asian cities. The final part will summarize the opportunities for and the institutional barriers to mainstreaming concerns about clean energy development in Asian cities.

Brazilian Metropolitan Natural Areas: Dissonances and Interactions between Rural and Urban on Macro Metropolitan Context

Roberta Fontan (KU / USP)

The pattern of physical expansion of the urbanization in main metropolitan cities in Brazil has provoked/resulted in several urban and environmental problems that affect its population and its territories. During the last decades, many of these issues have been intimately linked to the human dwelling occupation over natural areas whose environmental relevance cannot be overseen (GROSTEIN, 2001). The protected environmental areas which are mainly represented by: forests and sources of water supply in São Paulo, Curitiba, and Belo Horizonte metropolitan areas; dunes and lagoons in Natal and Fortaleza metropolitan areas; igarapés in Belém do Pará metropolitan area; cerrado in Brasília; and mountains and margins of rivers and streams in Rio de Janeiro and São Paulo metropolitan areas. The “peripheral pattern of urbanization” already widely discussed by several scholars in Brazil persists in the metropolitan areas mentioned here.

On one hand, the urban, social and environmental problems arising from this pattern of urbanization must be identified and regarded as a whole equated to ensure the preservation of areas that respond to the larger interests of the metropolitan population. On the other hand, these urbanizing areas have served as a source of income and of productive activities on a set of scales have been transformed into rural, touristic, and leisure activity areas.

This paper discusses the diversity of natural areas that exist within the Brazilian metropolitan contexts. We seek to present how the urbanization process has impacted the varied natural environments in Brazil, and indicate the most relevant issues of the debate concerning the transformation of rural areas into inter-metropolitan areas, as seen in the Paulista case. Finally, the present study considers some important aspects that should be further developed in order to allow a better articulation between the two mentioned aspects of this relationship.

Considering the Brazilian natural, rural, and urban areas as a whole, this approach seeks elements to comprehend the complex opposition/integration

system of the Paulista Macrometropolitan Region (known as Macrometrópole Paulista or MMP) on São Paulo State, through the observation and analysis of the urban sprawl evolution, protected natural areas, and productive activities of some Paulista municipalities.

Seminar Photos

(Photos appear in the same order of the program)



Kono Yasuyuki



Mizuno Kosuke



Yanagisawa Masayuki



Neli de Mello-Théry



Ricardo Fraga



Claide de Moraes



Anne Rapp



Discussion



Wil de Jong



Kohshima Shiro



Session 1: Discussion



Session 1: Discussion



Lunch by Hoxai Kitchen



Images from the documentary "Antiga Amazonia Presente", produced by Sílvia Cordeiro, screened during lunch time (<https://vimeo.com/132530920>)



Lunch by Hoxai Kitchen, prepared by Nakagawa Keita



Izumi Takura



Hervé Théry



Eliseu Sposito



Hagiwara Hachirō



Okabe Akiko



Matsumoto Yutaka



Rohan D'Souza



Session 2: Discussion



Hara Shoichiro



Yamashiki Yosuke



Hooman Farzaneh



Roberta Fontan



Session 3: Final Discussion



Kondō Tetsuo







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